Nursing Students' Perception toward Shifting to Online Learning during the COVID-19 Pandemic at Urgent and Planned Situations

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Abstract

Background: The coronavirus disease 2019 (COVID-19) pandemic has negatively affected the learning strategies of nursing faculties, causing the temporary lockdown of universities and sudden shift of traditional learning to online learning without prior preparation. As lockdown continues, preparation of educational process for online learning takes place. **Aim:** We aimed to compare nursing students' perception toward online learning during the COVID-19 pandemic at urgent and planned situations. **Research design:** A descriptive study was conducted. **Setting:** Data were collected at the Faculty of Nursing of Kafrelsheikh University in Egypt. **Study subjects:** By stratified randomization, we recruited 1004 students who already shifted to online learning during the pandemic and divided them into the urgent and planned situation groups (502 per group). **Tools:** Two tools were utilized: students' technical-related data and students' perception toward online learning, benefits, and possible challenges. **Results:** A statistically significant difference in nursing students' perception toward online learning ($\chi^2 = 356.215^*$, $p < 0.001^*$) between the periods of urgent and planned situations, approximately one-quarter (20.7%) of the urgent group compared with the majority (80.3%) in the planned group had a positive overall perception. **Conclusion:** Nursing students' perception during the period of planned online learning was better than that during the period of urgent online learning. **Recommendations:** We recommend introducing the latest innovations of online learning for both theoretical and practical lectures, including 3D virtual learning environment for practical lectures.

Keywords: Online Learning; Nursing Students' Perception; Urgent Situation; Planned Situation; COVID-19.

Introduction

At the end of December 2019, the coronavirus disease 2019 (COVID-19) outbreak emerged. This contagious disease spread rapidly worldwide, thereby declaring it as a pandemic by the World Health Organization in March 2020 **(Sahoo, 2020).** This urgent situation forced the world to shut down academic institutions to eliminate the further spread of this deadly virus. Online learning, which does not require the use of traditional classrooms and face-to-face interactions, has emerged as a substitute for offline teaching **(Khan, Nabi, Khojah, & Tahir, 2021).**

Online learning is any form of education that happens over the Internet through all websites, apps, or learning platforms **(ConexED, 2020).** Online learning can provide several activities, such as videos, recorded lectures, live question-and-answer discussion sessions,

quizzes, E-books, and E-journals **(Kim, 2020).**

Furthermore, online learning has several positive aspects, including accessibility, affordability, flexibility, individualized learning, cognitive ability development, research promotion, and globalization. Hence, it can reach to remote areas without requiring higher costs of transportation and accommodation. In terms of flexibility, learners may organize their time to attend online courses. It also offers unlimited information that helps improve cognitive abilities for the learners through using new technologies, overcoming geographical barriers in the educational process **(Dhull & Arora, 2019).** This newly adopted method appears to solve many problems that are almost impossible to solve in the traditional classroom setting. **(Zhidong, 2011).**

These advantages may enhance the educational process during the pandemic. However, the students' learning process encounters some obstacles, such as reduced student motivation and insufficient feedback or help because teachers may be unavailable whenever students need guidance. In addition, feelings of isolation may arise because of the lack of classmates' physical presence. Teachers should have experience related to online learning environment to overcome these obstacles and to gain better results from online learning **(Coman, Țîru, Meseșan-Schmitz, Stanciu, & Bularca, 2020).**

At the middle of March 2020, traditional learning urgently shifted to online learning. Considering that the educational materials were urgently prepared for online learning and the teachers lacked professional training for online teaching and learning, the quality of online programs might be low **(Ho, et al. 2020).** As the pandemic continued, the ministry of higher education enforced educational institutions to plan the educational process well to maintain high-quality learning. Thus, all universities prepared platforms for online learning, conducted training courses for professors and students about online educational process, asked professors to prepare educational materials that are suitable for online learning, and helped students prepare facilities needed for online learning.

Significance of the study

Online learning was first applied at the mid-1970s **(Harasim, 2017).** At that time, it was considered as an exploration. Nowadays, after 50 years, technology has developed rapidly, and we need to keep going with its speed. Hence, our study compared nursing students' perception between the periods of urgent and planned situations to determine any difference in their perception at both situations toward online learning. Online learning must be adapted by all students for various reasons. It is the future of learning worldwide and offers several benefits for educational institutions, professors, and students. Additionally, it can enhance the quality of education and increase students' motivation to learn.

Aim of the study

We aimed to compare nursing students' perception toward online learning during COVID-19 pandemic at urgent and planned situations.

Subjects and Methods

Research questions

1. Do nursing students have a positive perception toward online learning?

2. Are nursing students' perceptions toward planned online learning better than their perceptions at urgent online learning?

3. What are the obstacles/challenges faced by nursing students when using online learning?

Operational definition

1.**Urgent situation** refers to the period during the middle of the second semester (from March to May 2020).

2.**Planned situation** refers to the period during the first semester (from October 2020 to January 2021).

Research design:

A descriptive research design was conducted.

Setting:

Data were collected at the Faculty of Nursing of Kafrelsheikh University in Egypt.

Study subjects:

We included a stratified random sample of 1004 students who already shifted to online learning during COVID-19 pandemic and were classified into the urgent and planned situation groups, with 502 students per group.

Tools of the study:

We developed a questionnaire sheet and translated it into Arabic according to the relevant literature: **Coman, Țîru, Meseșan-Schmitz, Stanciu, and Bularca (2020); Abbasi, Ayoob, Malik, and Memon (2020); Elfaki, Abdulraheem, and Abdulrahim (2019); Seada, and Mostafa (2017); Mostafa, Salama, and Ahmed (2017)**. It consists of two tools.

Tool I: Students' technical-related data

Part one: It includes students' data (gender, academic year, online courses, Internet use duration [hours]).

Part two: It includes technical requirements needed (Availability of computer or mobile phone, Internet access, modes of communication with the faculty).

Tool II: Students' perception toward online learning

Part one: It refers to the overall perception, comprising questions regarding students' perception toward quality, security, and efficiency of online learning. (9 items)

Part two: It covers students' perception on the benefits of online learning. (15 items)

Part three: It includes students' perception on the possible challenges of online learning. (7 items)

❖ **scoring system:**

Each item for tool II was responded as either "yes" (1 point) or "no" (0 point). In addition, negative and

positive perceptions corresponded to 0 and 1 point, respectively.

Validity and reliability

Content validity was tested by a jury of five experts in the fields of Medical-Surgical Nursing (2 professors), Critical Care and Emergency Nursing (1 assistant professor), Nursing administration (1 assistant professor), and Biostatistics department (1 lecturer). The experts revised the tools for clarity, relevancy, comprehensiveness, simplicity, and applicability. After minor modifications, the final form was developed. Reliability of the proposed tools was estimated using Cronbach's α test to measure the internal consistency of the tools; the tool obtained 0.778, which reflects that the tools are reliable.

Pilot study

Before data collection, a pilot study was conducted on 10% of the participants to test the applicability and feasibility of the tools and make necessary modifications before conducting the main study. Nursing students who participated in the pilot study were excluded from the study sample.

Ethical considerations

After being explained of the study purpose, the Dean of the Faculty of Nursing at Kafrelsheikh University approved this study. Eligible nursing students provided informed consent before data collection. These participants were assured that their participation is voluntary and they had the right to withdraw from the study at any time without penalty. Their anonymity and confidentiality of their information were also ensured, and ethics, values, culture, and beliefs were respected.

Field work:

Data were collected from May 1, 2020 to January 31, 2021, through the following phases.

Phase I: At the end of the second semester (from March to May 2020), we designed an electronic tool on Google Forms and send it to all participants to obtain their perceptions toward online learning during the urgent situation, that is, the "first lockdown of universities due to COVID-19 pandemic".

Phase II: At the first semester of 2020–2021 (from October 2020 to January 2021), after planning the online learning process, several decisions were considered to enhance the online learning education process. These decisions were as follows: all universities developed educational platforms containing the educational materials, all professors took online courses on the latest methods of preparing online courses and quizzes, all students have an email at the university platform to easily access the educational materials, and from the beginning of the semester, all courses were prepared to be online, including the clinical part (video recorded) and questions bank were formulated to enhance students' academic achievement.

Phase III: We sent the electronic tool (Google Form) to the participants to identify their perceptions toward online learning, at the end of the first semester 2020–2021 after the application of improvement package of online educational process.

Statistical analysis

Data were encoded to the computer and analyzed using IBM SPSS software package version 20.0 (Armonk, NY: IBM Corp). We present qualitative

data as number and percentage, and quantitative data as range (minimum and maximum), mean, and standard deviation. Regarding significance, results at the 5% level were considered significant. The used tests were: Chi-square (χ^2) test: For categorical variables, to compare between different groups. Fisher's Exact: Correction for χ^2 test when more than 20% of the cells had an expected count of less than 5. Cronbach's α: Reliability statistics was assessed using Cronbach's α test.

Results:

Figure (1): As shown in, majority of the participants from both the urgent and planned groups (81.3% and 83.5%) were females, and nearly three quarters of both groups (73.7% and 70.3%, respectively) were in the 4th academic year. Also, there was no statistically significant difference between the two groups regarding gender and academic year ($\chi 2$=0.83, P=0.36 and $\chi 2$=2.65, P=0.45). Concerning online learning courses, more than half (57.6%) of the urgent group and majority in the planned group (80.7%) were studying more than four courses. Furthermore, more than half (58.2%) of the urgent group and less than half of the planned group (46.0%) used the Internet more than four hours/day.

Figure (2): illustrates that approximately one-quarter of the urgent group (22.7%) and less than half of the planned group (46.8%) owned a computer. In addition, most of the participants in the urgent and planned groups (98.0% and 100.0%, respectively) had a mobile phone. Approximately two-thirds (61.4%) of the urgent group and majority of those in the planned group (85.7%) had Internet access, and most of the participants in both groups (88.4% and 93.0%) used online learning forms to communicate with their teachers. In particular, the proportion of students

using Facebook and WhatsApp for student–faculty communication was almost the same between the groups (urgent, 43.8%; planned, 44.4%).

Table (2): displays that approximately one-quarter of the urgent group (20.7%) had a positive overall perception toward online learning compared with the majority (80.3%) in the planned group. Moreover, the overall perception toward online learning improved significantly when planned (P ≤ 0.05).

Table (3): As shown, approximately two-thirds of the planned group agreed that the quality of online learning was satisfactory (67.1%), online learning included all forms of technically mediated teaching (69.7%), and it improved academic performance (74.3%). However, majority of those in the urgent group reported that online learning was inefficient as a traditional approach, student isolation had increased, and online learning had a lower impact than the traditional method (78.9%, 83.3%, and 86.3%, respectively). Nonetheless, students' positive perception toward online learning improved significantly after planning ($P \le 0.05$).

Table (4): shows that the proportion of obstacles related to technical and equipment support was statistically significantly higher in the urgent group than in the planned group ($P < 0.05$).

Table (5): illustrates that students' overall perception toward online learning had positive statistical correlations with the technical requirements ($P < 0.05$).

Table (6): students' overall perception toward online learning had positive statistical correlations with obstacles related to technical and equipment support ($P < 0.05$).

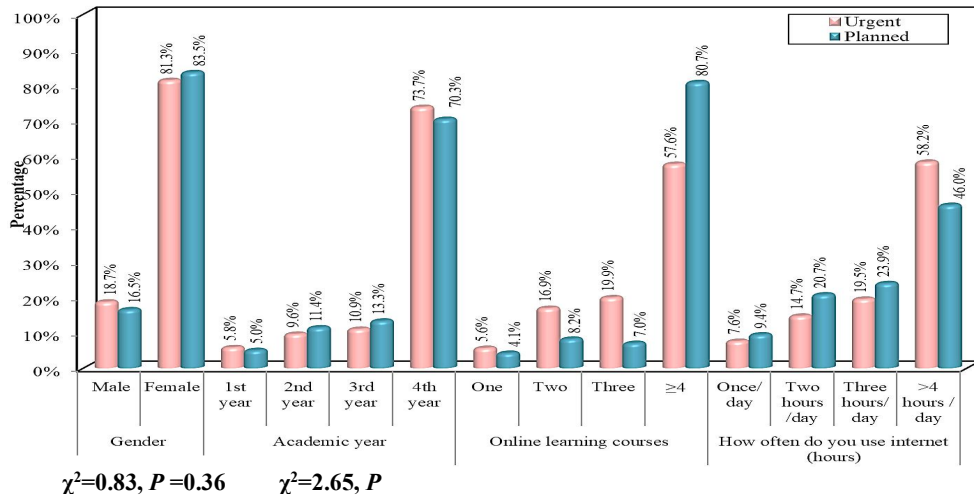$\chi^2=0.83, P=0.36$ $\chi^2=2.65, P$

Figure (1): Comparison between studied groups according to students' data during urgent and planned situations (n = 1004).
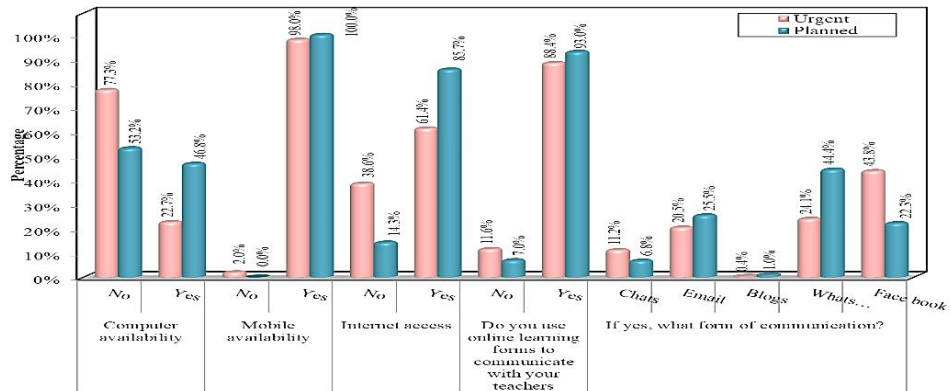

Figure (2): Comparison between studied groups according to their technical requirements during urgent and planned situations (n = 1004).

Table (1): Comparison between studied groups according to student's perception on the benefits of online learning during urgent and planned situations (n = 1004).

Student's perception on the benefits of online learning	Urgent (n = 502)		Planned (n = 502)		χ^2	P
	No.	%	No.	%		
Online learning is useful because the educational materials/courses are readily available online.	216	43.0%	415	82.7%	168.928*	<0.001*
It is convenient and allows flexible schedule.	201	40.0%	357	71.1%	98.178*	<0.001*
It promotes more interaction and concentration.	158	31.5%	345	68.7%	139.319*	<0.001*
It is cost-effective.	182	36.3%	315	62.7%	70.481*	<0.001*
It enables better understanding of training than formal teaching methods.	111	22.1%	335	66.7%	202.423*	<0.001*
It helps me learn at my own pace.	399	79.5%	470	93.6%	43.142*	<0.001*
It gives me control over my learning.	230	45.8%	407	81.1%	134.547*	<0.001*
The process of accessing materials is clear and understandable.	165	32.9%	411	81.9%	246.455*	<0.001*
It is an interesting and attractive way to learn.	127	25.3%	384	76.5%	263.228*	<0.001*
It enhances learning experience as well as communication skills.	210	41.8%	417	83.1%	181.998*	<0.001*
It increases the quality of learning and integrates all forms of media.	241	48.0%	438	87.3%	176.568*	<0.001*
Adopting online learning allows for increased student satisfaction.	123	24.5%	360	71.7%	224.102*	<0.001*
It is interactive in that I can also communicate with my teachers, professors, or classmates.	276	55.0%	396	78.9%	64.802*	<0.001*
Sometimes, it is delivered live, where I can "electronically" raise my hand and interact in real time, and at times, the lecture has been prerecorded.	314	62.5%	439	87.5%	83.001*	<0.001*
In online learning, the teacher or professor interacts/communicates with us and grades our participation, assignments, and tests.	331	65.9%	459	91.4%	97.300*	<0.001*

Data are expressed as frequency (percentage). *P* value by chi-square (χ^2) test. * $P \leq 0.05$ (significant)

Table (2): Comparison between studied groups according to the overall perception toward online learning during urgent and planned situations (n = 1004).

Overall perception toward online learning	Urgent (n = 502)		Planned (n = 502)		χ^2	P
	No.	%	No.	%		
Negative	398	79.3%	99	19.7%	356.215*	<0.001*
Positive	104	20.7%	403	80.3%		

Data are expressed as frequency (percentage). *P* value by chi-square (χ^2) test. * $P \leq 0.05$ (significant)

Table (3): Comparison between studied groups' perception toward online learning during urgent and planned situations (n = 1004).

Perception toward online learning	Urgent (n = 502)		Planned (n = 502)		χ^2	P
	No.	%	No.	%		
Causes of positive perception						
The quality of online learning is satisfactory.	170	33.9%	337	67.1%	111.123*	<0.001*
The implementation of online learning will improve academic performance.	136	27.1%	373	74.3%	223.824*	<0.001*
Online learning includes all forms of technically mediated teaching.	147	29.3%	350	69.7%	164.196*	<0.001*
Causes of negative perception						
Online learning is not efficient as a traditional learning method.	396	78.9%	192	38.2%	170.814*	<0.001*
It has a lower impact than the traditional learning method.	433	86.3%	251	50.0%	151.939*	<0.001*
Student–teacher interaction is affected (isolation has increased).	418	83.3%	306	61.0%	62.126*	<0.001*
Online learning is not secure.	286	57.0%	116	23.1%	119.897*	<0.001*
It is not a course delivered via a DVD, CD-ROM, video tape, or over a television channel.	284	56.6%	202	40.2%	26.816*	<0.001*

Data are expressed as frequency (percentage). P value by chi-square (χ^2) test. * $P \leq 0.05$ (significant).

Table (4): Comparison between studied groups according to students' perception about the challenges of online learning (obstacles) during urgent and planned situations (n = 1004).

Students' perception about the challenges of online learning (obstacles)	Urgent (n = 502)		Planned (n = 502)		χ^2	P
	No.	%	No.	%		
Skipping of online classes	441	87.8%	419	83.5%	3.924*	0.048*
Little interaction/No face-to-face interaction	446	88.8%	346	68.9%	59.796*	<0.001*
Distracted on using online learning	422	84.1%	251	50.0%	131.790*	<0.001*
If yes, then why	(n = 422)		(n = 251)			
No monitoring	204	48.3%	142	56.6%	4.270*	0.039*
No friends around	218	51.7%	109	43.4%		
Obstacles related to technical and equipment support:						
Charges to be incurred for the use of services	446	88.8%	410	81.7%	10.271*	0.001*
Difficulties in accessing online education	390	77.7%	187	37.3%	167.928*	<0.001*
Poor Internet connection	435	86.7%	296	59.0%	97.204*	<0.001*
Difficulties caused by my incompetence in utilizing Internet connection devices	295	58.8%	155	30.9%	78.935*	<0.001*
Absence of technical help	410	81.7%	249	49.6%	114.467*	<0.001*
Difficulties caused by insufficient information given regarding access to online education	356	70.9%	186	37.1%	115.875*	<0.001*
Most computers having poor working efficiency	350	69.7%	204	40.6%	85.845*	<0.001*

Data are expressed as frequency (percentage). P value by chi-square test. * $P \leq 0.05$ (significant)

Table (5): Correlation between the overall perception toward online learning during urgent and planned situations regarding technical requirements (n = 1004).

Technical requirements	Perception toward online learning							
	Urgent (n = 502)				Planned (n = 502)			
	Negative (n = 398)		Positive (n = 104)		Negative (n = 99)		Positive (n = 403)	
	No.	%	No.	%	No.	%	No.	%
Computer availability								
No	330	82.9	58	55.8	71	71.7	196	48.6
Yes	68	17.1	46	44.2	28	28.3	207	51.4
$\chi^2(P)$	34.616* (<0.001*)				17.006* (<0.001*)			
Mobile availability								
No	8	2.0	2	1.9	0	0.0	0	0.0
Yes	390	98.0	102	98.1	99	100.0	403	100.0
$\chi^2(P)$	0.003 (^{FE}P = 1.000)				-			
Internet access								
No	180	45.2	14	13.5	30	30.3	42	10.4
Yes	218	54.8	90	86.5	69	69.7	361	89.6
$\chi^2(P)$	35.088* (<0.001*)				25.570* (<0.001*)			

χ^2: chi-square, FE**:** Fisher's Exact *: Statistically significant at $P \leq 0.05$

Table (6): Correlation between the overall perception toward online learning during urgent and planned situations regarding obstacles related to technical and equipment support (n = 1004).

Obstacles related to technical and equipment support	Perception toward online learning									
	Urgent (n = 502)				$\chi^2(P)$	Planned (n = 502)				$\chi^2(P)$
	Negative (n = 398)		Positive (n = 104)			Negative (n = 99)		Positive (n = 403)		
	No.	%	No.	%		No.	%	No.	%	
Charges to be incurred for the use of services	359	90.2	87	83.7	3.566 (0.059)	86	86.9	324	80.4	2.224 (0.136)
Difficulties in accessing online education	351	88.2	39	37.5	122.236* (<0.001*)	73	73.7	114	28.3	70.235* (<0.001*)
Poor Internet connection	373	93.7	62	59.6	82.918* (<0.001*)	80	80.8	216	53.6	24.319* (<0.001*)
Difficulties caused by my incompetence in utilizing Internet connection devices	261	65.6	34	32.7	36.799* (<0.001*)	55	55.6	100	24.8	35.191* (<0.001*)
Absence of technical help	355	89.2	55	52.9	72.633* (<0.001*)	73	73.7	176	43.7	28.737* (<0.001*)
Difficulties caused by insufficient information given regarding access to online education	318	79.9	38	36.5	75.165* (<0.001*)	73	73.7	113	28.0	71.159* (<0.001*)
Most computers having poor working efficiency	309	77.6	41	39.4	57.040* (<0.001*)	59	59.6	145	36.0	18.374* (<0.001*)

$\chi2$: chi-square test, *: Statistically significant at $P \leq 0.05$

Discussion

Most institutions worldwide were affected by the COVID-19 outbreak. Education is one of these institutions, and to keep pace with the development of educational process across the world, some decisions, such as shifting to online learning, were taken. This specific decision, as an urgent one, requires students to adapt to achieve best results **(Butnaru, Niță, Anichiti, & Brînză, 2021).**

Our study revealed that most of the student participants in both the urgent and planned situation groups were female, probably because of the increased number of females in the faculty than of males. This result is consistent with the studies of **Coman, Țîru, Meseșan-Schmitz, Stanciu, and Bularca (2020); Adams, Chuah, Sumintono, and Mohamed (2021); Rafique, Mahmood, Warraich, and Rehman (2021)**. In contrast, approximately two-thirds of the students were male in the studies of **Khan, Kamal, Illiyan, and Asif (2021)** and **Algahtani, et al. (2020)**.

Regarding the number of online courses, majority of the nursing students have an equal to or more than four online courses, leading to using the Internet more than four hours per day; at least five courses were provided in the semester. This result is consistent with the study result of **Aguilera-Hermida, et al., (2021)** wherein students had five or more online courses.

Technical requirements needed for online learning changed from urgent to planned situation. Only approximately one-quarter of the students owned a computer during the urgent situation compared with near half of the students during the planned situation. Furthermore, only two-thirds of the students in the urgent group had Internet access, whereas majority of students in the planned group had such access, illustrating the readiness of students for online learning. Having Internet access enhanced their motivation and perception toward online learning. This result is supported by **Rafique, Mahmood, Warraich, and Rehman (2021)**, who stated that availability and efficacy of computer skills are necessary for effective online learning.

In terms of the benefits of online learning, most students at the planned situation revealed that online learning was useful and flexible, gave them control over learning, and enhanced their learning experience, consistent with the study findings of **Khan, Nabi, Khojah, and Tahir (2021)** and **Mukhtar, Javed, Arooj, and Sethi (2020)**. Conversely, only less than half of the students at the urgent situation agreed to such benefits, probably because of the lack of technical resources (computer and Internet access), lack of experience needed for learning environment at the urgent situation, and inability to adapt quickly to emergent transition to online learning. This result is in line with that of **Barrot, Llenares, and Del Rosario (2021)**, who reported that students from low socioeconomic level had limited access to good Internet services and resources needed for online learning.

Regarding the cost of online learning, only one-third of the students at the urgent situation said that online learning was cost-effective. Meanwhile, two-thirds of those at the planned situation agreed to such opinion, possibly because proper planning of online materials made Internet access easier and faster for students. In addition, proper training for online education helped achieve better results at a lower cost. Online learning also saved transportation cost for students. This result is similar to

that of **Zhang and Worthington (2017)**. They reported that the cost of online learning is lower than that of face-to-face learning, as seen in 37 universities in Australia over 9 years.

During the planned situation, most students agreed that the process of acquiring access to educational content via online was clear and understandable, online learning integrated all forms of media, and it was a more attractive way of learning. However, only one-third of the students at the urgent situation agreed to such views. The effective planning of the infrastructure and the platform of the institution may explain the high agreement during the planned situation. This result is consistent with that of **Kuo, Walker, Belland, and Schroder (2013),** who revealed that easy access to online-organized content integrated with media and interactive videos stimulates student's satisfaction and increases motivation to learn. In contrast, **Adnan and Anwar (2020)** observed that only 10.3% of students felt that online learning is more motivating than conventional learning.

Regarding the overall perception of students at the urgent situation, most of the students had a negative perception toward online learning, preferring traditional learning to the online one, similar to the study of **Adnan and Anwar (2020)**. This result may be related to several factors; most of these students revealed that student–teacher interaction was decreased and online learning was not a secure method. Additionally, **Aguilera-Hermida (2020)** confirmed that the students' negative perception was caused by the view that the urgent online learning transition is complex and it may not be similar to planned online learning.

During the planned online learning, most students had a positive perception toward online learning. They agreed that online learning includes all forms of technically mediated teaching, thereby satisfactory and improving academic achievement. This result agrees with that of **Muthuprasad, Aiswarya, Aditya, and Jha (2021)**, who showed that students preferred online learning forms such as recorded videos, interactive sessions, and online quizzes, which were advantageous for them.

Since the adoption of online learning, the students' perception has changed from negative to positive toward online learning. However, this path had certain obstacles, which focused on three areas: computer efficiency, access to Internet services, and access to online learning materials.

A statistically significant difference was found between studied groups regarding students' perception on obstacles. More than two-thirds of students at the urgent situation expressed poor working efficiency of their computers. At the planned situation, more than one-third of the students expressed such concern. This improvement is one of the factors that illustrate a successful learning environment during the planned online learning situation. This result is in line with **Shawaqfeh, et al. (2020)**, who concluded that students must have computers and the ability to perform basic computer skills for successful learning environment.

A statistically significant difference was also observed in the Internet services between students' perception during urgent and planned situations. The Internet connection was poor in most of the students during the urgent situation and two-thirds during the planned situation. Nevertheless, the students overcame this obstacle during planned situation by access to technical

help. In line with this result, majority of the students received no technical help during the urgent situation, but during the planned situation, the number of students decreased to less than half. This result is similar to the finding of **Mukhtar, Javed, Arooj, and Sethi, (2020),** who recommended telecommunication companies to increase the speed of the Internet services across the country.

The great obstacle for the Internet was the charges. No statistically significant difference was observed between urgent and planned situations regarding charges for the Internet. Given that this obstacle is crucial, we tried to overcome it by sending some educational materials through apps that support free Internet services. In addition, uploading educational materials at the university platform allowed students to easily access the courses. Thus, more than two-thirds of students at the urgent situation to only one-third at the planned situation encountered difficulties in online learning access, with a statistically significant difference between such groups. These findings are consistent with those of **Barrot, Llenares, and Del Rosario (2021)**. They found that students from low and middle socioeconomic strata faced financial difficulties in online learning during the pandemic, but they were overcome through several ways, such as access to free web resources.

Regarding technical requirements, positive statistical correlations were found between student's overall perception toward online learning during the urgent and planned situations. Students with computers, mobile phones, and access to the Internet services had a positive perception toward online learning, consistent with the studies of **Muthuprasad, Aiswarya, Aditya, and Jha (2021)** and **Khan, Nabi, Khojah, and Tahir (2021).**

Positive statistical correlations were also noted between students' overall perception toward online learning of the studied groups, and obstacles related to technical and equipment support. Hence, the increase of obstacles will increase the negative attitude of students toward online learning, similar to the findings of **Adnan and Anwar (2020)**, who said that limited resources during the initial months of COVID-19 led to ineffective online classes.

Finally, professors and students were forced to use online learning because of the COVID-19 pandemic **(Baber, 2020)**. Universities, professors, and students were not appropriately prepared for this transition, resulting in a negative perception toward online learning among students. Nonetheless, after adequate preparation from various sectors, student's perception became positive.

Conclusion

Nursing students' perception toward online learning during the planned situation was better than that during urgent situation, indicating that online learning is an effective method of teaching.

Recommendations

- Introducing new innovations of online learning methods in the educational process.
- Engaging on Webinars for summer courses to enhance online learning adaptation for both professors and students.
- Training students on the use of the electronic library to achieve best results.
- Considering that nursing is a practical faculty, we need to use a 3D virtual

learning environment for the practicum.

- The ministry of higher education should collaborate with telecommunication companies to provide affordable and equitable Internet services for all students.
- Decreasing the time for online lecture and increasing professor–student interaction to mitigate students' inattention.
- The attention span of students during online learning and the professor–student interaction may be investigated in future studies.
- Finally, we suggest assessing students' opinion regarding critical factors that affect their acceptance of online learning during the crisis.

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Conflicts of Interest

The authors declare that there was no conflict of interest.

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